



**City of Santa Barbara**  
Parks and Recreation Department

**Memorandum**

**DATE:** January 18, 2012

**TO:** Creeks Restoration/Water Quality Improvement Program  
Citizen Advisory Committee

**FROM:** George Thomson, Creeks Planner

**SUBJECT:** **Upper Las Positas Creek Restoration and Storm Water Management Project**

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COMMITTEE DIRECTION – FOR DISCUSSION

That the Committee receive an update and discuss the Upper Las Positas Creek Restoration and Storm Water Management Project.

DISCUSSION

Project Background

The Upper Las Positas Creek Restoration and Storm Water Management Project ("Project") features native wetland habitat restoration and an engineered storm water management system that retains and treats polluted urban runoff water. The Project was originally conceived by Santa Barbara County's Project Clean Water during an assessment of potential sites suitable for new storm water management facilities. The City initiated conceptual design of the Project in 2005, and the final design plans were completed in 2008. Construction occurred in 2009-2010.

The Project is located in the upper watershed of Las Positas Creek, surrounded by residential properties, the Santa Barbara Golf Club, and Adams Elementary School. Before Project construction, erosive water flows during winter storms carried sediment and other contaminants down Las Positas Creek to Arroyo Burro and the estuary. Creek bank erosion and a lack of productive native wildlife habitat were evident at the site too.

The Project covers about eight acres, with approximately three acres of turf-covered berms and depressions that serve as storm water treatment swales and holding basins to reduce peak storm runoff. The engineered controls included in the storm water holding basins allow staff to control the amount of storm water that leaves the site, thereby decreasing offsite flows during large storms that may lead to increased erosion

and poor water quality downstream. In addition, the storm water holding basins provide areas where sediment and potentially harmful bacteria can settle out of the water column. This reduces the amount of contaminants reaching downstream waterways. In addition to the storm water management components, over five acres of habitat was restored by creating wetland pools and ponds, installing more natural creek channels, and planting approximately 10,000 native plants. These ecological restoration efforts provide increasingly rare native wetland habitats that attract wildlife, particularly migratory birds.

#### Construction

Project construction commenced in June 2009. It involved large amounts of excavation and grading, constructing complex engineered berm structures, and installing acres of landscaping and irrigation systems. Construction progressed on schedule until an unusually large storm occurred in mid-October 2009 that brought over 3.5 inches of rain to the site during two days. The storm caused severe scouring of the newly built creek channels and other erosion around the site where landscaping was yet to be completed. The storm also revealed several design deficiencies that necessitated portions of the two largest berms to be modified and rebuilt. Additional design and construction was required to modify some of the smaller rock channels and weirs. The storm damage and design modifications delayed the completion of the construction phase until August 2010.

#### Project Cost & Funding

The following table summarizes the total Project cost, including all expenditures associated with the design modifications and storm damage.

|                    |              |
|--------------------|--------------|
| Design             | \$ 301,011   |
| Construction       | \$ 2,474,334 |
| Total Project Cost | \$ 2,775,345 |

The table below summarizes the total Project funding obtained from sources outside the City. An American Recovery and Reinvestment Act (ARRA) grant and a Southern California Wetlands Recovery Project grant were received to help fund a portion of the project. In addition, an acceptable financial settlement was reached with the consultant design engineer and contractor to reimburse the City for a majority of the additional costs associated with the design deficiencies. Approximately \$428,148 of Measure B funds was used for the Project, with the majority being spent on the design phase.

|                                       |              |
|---------------------------------------|--------------|
| Grant Funding                         | \$ 1,672,197 |
| Design Engineer/Contractor Settlement | \$ 675,000   |
| Total External Funding                | \$ 2,347,197 |

### Education and Outreach

A robust outreach and education program was implemented during the Project. Target audiences included students at the Adams Elementary School and UCSB, golfers, and nearby residents. Creeks staff led numerous tours of the site, hosted community planting days, and established an outdoor habitat garden and classroom at Adams School. Staff also was invited to UCSB to present the Project to several undergraduate classes. City TV produced several documentary features about the Project that aired on local television and is also available at the City's web site. Permanent educational signage is being produced for installation at several locations at the Project.

### Habitat and Water Quality

Native plant habitats have established well in most parts of the Project. Over 60 species of native plants have created a diversity of habitats that support butterflies, amphibians, invertebrates, and migratory birds. There are two areas in the Project that suffer from poor soil conditions so plant growth was not as robust as expected in these locales. Additional soil amendments, irrigation management, and different plantings are being instituted to improve growth in these areas. Overall, the diversity of wetland and upland habitats created in the Project provide an assortment of wildlife nesting and feeding options that were not available prior to construction.

A water quality sampling plan is currently being implemented by Creeks Division staff. Since the Project has only been in-the-ground for one winter season, water quality sampling results are not yet conclusive. However, the Project physically retains and treats over four million gallons of contaminated runoff from adjacent urban areas, keeping it from reaching the Arroyo Burro Estuary and beach. All of the precipitation this year has been treated and retained at the Project. Sampling of this ponded runoff has shown it to be suitable for aquatic wildlife.

### Maintenance and Management

Maintenance activities since Project completion have focused on removing non-native, invasive plants, repairing irrigation systems, and ensuring proper growth conditions for native plants. Fiscal Year 2012 has \$50,000 budgeted for maintenance of the Project.

Routine inspections and maintenance is conducted on the mechanical and drainage systems of the Project to ensure proper function. This typically involves exercising and lubricating valves, inspecting pipes, and clearing out storm drain inlets and flow diversion structures.

The majority of maintenance activities have focused on removing weeds. Algae are also occasionally removed from the larger ponds to improve aesthetics and to reduce the likelihood of anoxic water conditions. The algae are recycled as fertilizer for use on plantings in the upland areas of the Project. Additional native plantings have also been installed throughout the site to infill areas that remained sparse after construction. Another infill planting is planned for later this winter and will focus on wetland edge and oak woodland vegetation types. Supplementary mulching for weed control will also occur this year. Mosquitoes were effectively managed through the use of bio-larvicides

that restrict the development of young mosquitoes to flying adults. Ongoing Project maintenance costs are expected to decline as the landscaping becomes more established.

cc: Cameron Benson, Creeks Restoration/Clean Water Manager  
Jill Zachary, Assistant Parks and Recreation Director